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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/960,337	09/24/2001	Mutsumi Fujihara	214295US2RD	4635
22850	7590	12/17/2004	EXAMINER	
OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C.				NGUYEN BA, PAUL H
1940 DUKE STREET				
ALEXANDRIA, VA 22314				
				ART UNIT
				PAPER NUMBER
				2176

DATE MAILED: 12/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	09/960,337	FUJIHARA ET AL.
Examiner	Art Unit	
Paul Nguyen-Ba	2176	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

1) Responsive to communication(s) filed on 09 March 2004.  
 2a) This action is **FINAL**.                            2b) This action is non-final.  
 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

4) Claim(s) 1-20 is/are pending in the application.  
 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.  
 5) Claim(s) \_\_\_\_\_ is/are allowed.  
 6) Claim(s) 1-20 is/are rejected.  
 7) Claim(s) \_\_\_\_\_ is/are objected to.  
 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

9) The specification is objected to by the Examiner.  
 10) The drawing(s) filed on 24 September 2001 is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
 a) All    b) Some \* c) None of:  
 1. Certified copies of the priority documents have been received.  
 2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
 3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

1) Notice of References Cited (PTO-892)  
 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)  
 3) Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date \_\_\_\_\_.  
 5) Notice of Informal Patent Application (PTO-152)  
 6) Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Notice to Applicant***

1. This action is responsive to Information Disclosure Statement, filed on March 9, 2004.
2. Claims 1-20 have been considered. Claims 1 and 11 are independent claims.

### ***Priority***

3. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-10 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. The language of the claim raises a question as to whether the claim is directed merely to an abstract idea that is not tied to a technological art, environment, or machine which would result in a practical application producing a concrete, useful, and tangible result to form the basis of statutory subject matter under 35 U.S.C. §101. Claims need to be directed towards a “computer-implemented” method.

To expedite a complete examination of the instant application the claims rejected under 35 U.S.C. 101 (nonstatutory) above are further rejected as set forth below in anticipation of applicant amending these claims to place them within the four statutory categories of invention.

***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1, 2, 4-7, 10-12, 14-17, and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The wording of the above mentioned claims render it difficult, if not impossible, to determine the matter for which protection is sought, as they seem to derive from a literal translation. Specifically, the claim limitations are hard to ascertain because the language contains too many nested levels (*corresponding to...*, *contained...*, *contain...*) which makes the claim subjective and renders it nearly impossible to determine the “metes and bounds” of the claimed invention.

***Claim Rejections - 35 USC § 103***

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Mori et al. (“Mori”), U.S. Patent No. 5,806,058, in view of Layden, U.S. Patent Application Publication No. 2002/0065815.

### **Independent Claims 1 and 11**

Mori teaches a data management method and computer readable storage medium (see Abstract) comprising:

*assigning different indices to each of plurality of storage regions that are discriminated from each other by their addresses* (see Fig. 1 item 2 and Fig. 2; col. 3 lines 28-54 *et seq.*); and *registering the entries in the indices assigned to the storage regions that are designated by the address values corresponding to the entries* (see col. 1 lines 4-55, specifically lines 10-21).

Mori does not explicitly teach “forming entries corresponding to records containing address values referring to the storage regions so that the entries and the address values contained have one-to-one correspondence.” However, Layden teaches forming entry fields corresponding to records containing address values wherein a one-to-one correspondence exists between a field and the address of another data element (see [0032]) for the purpose of eliminating redundant entries.

Since Mori and Layden are both from the same field of endeavor, the purposes disclosed by Layden would have been recognized in the pertinent art of Mori. It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teaching of Mori with the teachings of Layden to include forming entries corresponding to

records containing address values referring to the storage regions so that the entries and the address values contained have one-to-one correspondence for the purpose of eliminating redundant entries.

### **Claims 2 and 12**

Mori teaches the data management method and computer readable storage medium with respect to claims 1 and 10 as discussed above, but does not explicitly teach “the indices being managed by sorting the entries with keys wherein the contents of the records contain the address values corresponding to the entries being used as the keys.”

However, Layden teaches a sort index wherein contents of the records that contain the address values can be used as keys (see Fig. 1). All key fields are sorted or indexed as the entries are made into the field for the purpose of locating the desired entry without having to read all the entries in the field (see [0029]). It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teaching of Mori with the teachings of Layden to include the indices being managed by sorting the entries with keys wherein the contents of the records contain the address values corresponding to the entries being used as the keys.

### **Claims 3 and 13**

Mori teaches the data management method and computer readable storage medium with respect to claims 2 and 12 as discussed above, but does not explicitly teach designating keys for determining the sorting order per entry. However, Laden teaches that all key fields are sorted or indexed as the entries are made into the field (see [0029]) for the purpose of at all times having an ordered array which can quickly be searched using a search process.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teaching of Mori with the teachings of Layden to include that all key fields are sorted or indexed as the entries are made into the field for the purpose of at all times having an ordered array which can quickly be searched using a search process.

**Claims 4, 5, 14, and 15**

Mori does not explicitly teach wherein contents of storage regions designated by other address values contained in the records that contain the address values corresponding to the entries are used as the keys for determining the sorting order of the entries. However Laden teaches an entity field containing an array of addresses, which can be structured as a key field (see [0030]-[0032]) for the purpose of eliminating redundant entries.

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teaching of Mori with the teachings of Layden to include an entity field containing an array of addresses, which can be structured as a key field for the purpose of eliminating redundant entries.

**Claims 6, 7, 16, and 17**

Mori does not explicitly teach “the changing of the order of the entries according to need so that the each key for the entries in the indices does not contradict with the sorting order while the contents containing the address values of the storage regions designated by the address values are updated.”

However, Layden teaches that the order of entries can be changed (i.e. redundant entries may be removed) for the purpose of defining the relationships among various fields, storage

regions, and addresses, to make sure that the indexes do not contradict with the sorting order (see [0032]).

It would have been obvious at the time the invention was made to a person having ordinary skill in the art to modify the teaching of Mori with the teachings of Layden to include the changing of the order of the entries according to need so that the each key for the entries in the indices does not contradict with the sorting order while the contents containing the address values of the storage regions designated by the address values are updated for the purpose of defining the relationships among various fields, storage regions, and addresses, to make sure that the indexes do not contradict with the sorting order.

**Claims 8 and 18**

Mori teaches *retrieving indices with specified keys* (see Abstract and col. 1 lines 58 *et seq.*).

**Claims 9, 10, 19, and 20**

Mori teaches *retrieving further indices corresponding to storage regions designated by other address values contained in records that contain address values corresponding to entries obtained by the preceding retrieval on other indices* (see col. 3 lines 28-54).

***Conclusion***

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paul Nguyen-Ba whose telephone number is (571) 272-4094. The examiner can normally be reached from 10:30 am - 7:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Joseph Feild can be reached on (571) 272-4090. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
JOSEPH FEILD  
SUPERVISORY PATENT EXAMINER

PNB